

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An electronic device comprising:
a substrate; and
a dielectric layer disposed on the substrate, the dielectric layer containing a TiO_x layer doped with a lanthanide, wherein the TiO_x layer doped with the lanthanide contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with the lanthanide by ion assisted electron beam evaporation.~~
2. (Original) The electronic device of claim 1, wherein the lanthanide has a concentration in the dielectric layer of between about 10% and about 30% of the dielectric layer.
3. (Original) The electronic device of claim 1, wherein the dielectric layer has a dielectric constant ranging from about 50 to about 110.
4. (Original) The electronic device of claim 1, wherein the dielectric layer has an equivalent oxide thickness (t_{eq}) in the range from about 1.5 Angstroms to about 5 Angstroms.
5. (Withdrawn – Currently Amended) An electronic device comprising:
a substrate; and
a dielectric layer disposed on the substrate, the dielectric layer containing a TiO_x layer doped with Nd, wherein the TiO_x layer doped with Nd contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with Nd by ion assisted electron beam evaporation.~~
6. (Withdrawn) The electronic device of claim 5, wherein the dielectric layer has a Nd doping of between about 10% and about 30% of the dielectric layer.
7. (Withdrawn) The electronic device of claim 5, wherein the TiO_x layer doped with Nd has

a dielectric constant ranging from about 50 to about 110.

8. (Withdrawn) The electronic device of claim 5, wherein the dielectric layer has an equivalent oxide thickness (t_{eq}) of less than 3 Angstroms.

9. (Withdrawn – Currently Amended) An electronic device comprising:

a substrate; and

a dielectric layer disposed on the substrate, the dielectric layer containing a TiO_x layer doped with Tb, wherein the TiO_x layer doped with Tb contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with Tb by ion-assisted electron beam evaporation.~~

10. (Withdrawn) The electronic device of claim 9, wherein the TiO_x layer has a Tb concentration of between about 10% and about 30% of the TiO_x layer.

11. (Withdrawn) The electronic device of claim 9, wherein the dielectric layer has a dielectric constant ranging from about 50 to about 110.

12. (Withdrawn) The electronic device of claim 9, wherein the dielectric layer has an equivalent oxide thickness (t_{eq}) in the range from about 1.5 Angstroms to about 5 Angstroms.

13. (Withdrawn – Currently Amended) An electronic device comprising:

a substrate; and

a dielectric layer disposed on the substrate, the dielectric layer containing a TiO_x layer doped with Dy, wherein the TiO_x layer doped with Dy contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with Dy by ion-assisted electron beam evaporation.~~

14. (Withdrawn) The electronic device of claim 13, wherein the dielectric layer has a Dy concentration of between about 10% and about 30% of the dielectric layer.

15. (Withdrawn) The electronic device of claim 13, wherein the TiO_x layer has a dielectric constant ranging from about 50 to about 110.
16. (Withdrawn) The electronic device of claim 13, wherein the dielectric layer has an equivalent oxide thickness (t_{eq}) of less than 20 Angstroms.
17. (Withdrawn – Currently Amended) A transistor comprising:
 - a source region disposed in a substrate;
 - a drain region disposed in the substrate;
 - a body region located between the source region and the drain region;
 - a dielectric layer disposed on the body region between the source region and the drain region, the dielectric layer containing a TiO_x layer doped with a lanthanide, wherein the TiO_x layer doped with the lanthanide contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with the lanthanide by ion assisted electron beam evaporation;~~ and
 - a gate coupled to the dielectric layer.
18. (Withdrawn – Currently Amended) The transistor of claim 17, wherein the dielectric layer containing the TiO_x layer doped with the lanthanide includes a TiO_x layer doped with one or more of Nd, Tb, ~~and~~ or Dy.
19. (Withdrawn) The transistor of claim 17, wherein the dielectric layer is substantially amorphous.
20. (Withdrawn) The transistor of claim 17, wherein the dielectric layer exhibits a dielectric constant in the range from about 50 to about 110.
21. (Withdrawn) The transistor of claim 17, wherein the dielectric layer exhibits an equivalent oxide thickness (t_{eq}) in the range from about 1.5 Angstroms to about 5 Angstroms.

22. (Withdrawn) The transistor of claim 17, wherein the dielectric layer exhibits an equivalent oxide thickness (t_{eq}) of less than 3 Angstroms.
23. (Withdrawn – Currently Amended) The transistor of claim 17, wherein the transistor further includes:
- a floating gate situated between the body region and the gate; and
 - a floating gate dielectric disposed on the floating gate with the gate disposed on the floating gate dielectric, the floating gate dielectric having a TiO_x layer doped with a lanthanide; ~~wherein the TiO_x layer is formed by ion-assisted electron beam evaporation.~~
24. (Withdrawn) The transistor of claim 17, wherein the transistor is a floating gate transistor.
25. (Withdrawn – Currently Amended) A capacitor comprising:
- a first conductive layer disposed on a substrate;
 - a dielectric layer disposed on the first conductive layer, the dielectric layer containing a ~~[[TiO_x]]~~ TiO_x layer doped with a lanthanide, wherein the TiO_x layer doped with the lanthanide ~~contains oxygen in addition to oxygen in TiO_x has an oxygen content supplemented during formation of the TiO_x layer doped the lanthanide by ion-assisted electron beam evaporation;~~ and
 - a second conductive layer disposed on the dielectric layer.
26. (Withdrawn – Currently Amended) The capacitor of claim 25, wherein the dielectric layer containing the TiO_x layer doped with the lanthanide includes a TiO_x layer doped with one or more of Nd, Tb, ~~and~~ or Dy.
27. (Withdrawn) The capacitor of claim 25, wherein the dielectric layer is substantially amorphous.
28. (Withdrawn) The capacitor of claim 25, wherein the dielectric layer exhibits a dielectric constant in the range from about 50 to about 110.

29. (Withdrawn – Currently Amended) A memory comprising:

a number of access transistors, each access transistor having a source region disposed in a substrate, a drain region disposed in the substrate, and a gate, at least one access transistor including a dielectric layer disposed on the substrate with the gate disposed on the dielectric layer, the dielectric layer containing a ~~[[TiO_x]]~~ TiO_x layer doped with a lanthanide, wherein the TiO_x layer doped with the lanthanide contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped with the lanthanide by ion-assisted electron beam evaporation;~~

a number of word lines coupled to a number of the gates of the number of access transistors;

a number of source lines coupled to a number of the source regions of the number of access transistors; and

a number of bit lines coupled to a number of the drain regions of the number of access transistors.

30. (Withdrawn – Currently Amended) The memory of claim 29, wherein the dielectric layer containing the TiO_x layer doped with the lanthanide includes a TiO_x layer doped with one or more of Nd, Tb, ~~and~~ or Dy.

31. (Withdrawn) The memory of claim 29, wherein the dielectric layer is substantially amorphous.

32. (Withdrawn) The memory of claim 28, wherein the dielectric layer exhibits a dielectric constant in the range from about 50 to about 110.

33. (Withdrawn) The memory of claim 28, wherein the memory is a dynamic random access memory.

34. (Withdrawn) The memory of claim 28, wherein the memory is a flash memory.

35. (Withdrawn – Currently Amended) An electronic system, comprising:
a processor;
a system bus; and
a memory array coupled to the processor by the system bus, the memory array including:
a number of access transistors, each access transistor having a source region disposed in a substrate, a drain region disposed in the substrate, and a gate, at least one access transistor including a dielectric layer disposed on the substrate with the gate disposed on the dielectric layer, the dielectric layer containing a ~~[[TiO_x]]~~ TiO_x layer doped with a lanthanide, wherein the TiO_x layer doped with the lanthanide contains oxygen in addition to oxygen in TiO_x ~~has an oxygen content supplemented during formation of the TiO_x layer doped the lanthanide by ion assisted electron beam evaporation;~~
a number of word lines coupled to a number of the gates of the number of access transistors;
a number of source lines coupled to a number of the source regions of the number of access transistors; and
a number of bit lines coupled to a number of the drain regions of the number of access transistors.
36. (Withdrawn – Currently Amended) The electronic system of claim 35, wherein the dielectric layer containing the TiO_x layer doped with the lanthanide includes a TiO_x layer doped with one or more of Nd, Tb, ~~and~~ or Dy.
37. (Withdrawn) The electronic system of claim 35, wherein the dielectric layer is substantially amorphous having a dielectric constant in the range from about 50 to about 110.
38. (Withdrawn) The electronic system of claim 35, wherein the processor is a microprocessor.
39. (Withdrawn) The electronic system of claim 35, wherein the electronic system is an

information handling system.

40. (Withdrawn) The electronic system of claim 35, wherein the electronic system is a computer.